



Analysis of Regions Not Currently Involved in WIRED Grants or RIGs: Upper Maryland Area

October 2008

Upper Maryland Area

Allegany County, Maryland
Carroll County, Maryland
Frederick County, Maryland
Garrett County, Maryland
Washington County, Maryland
Franklin County, Pennsylvania
Fulton County, Pennsylvania

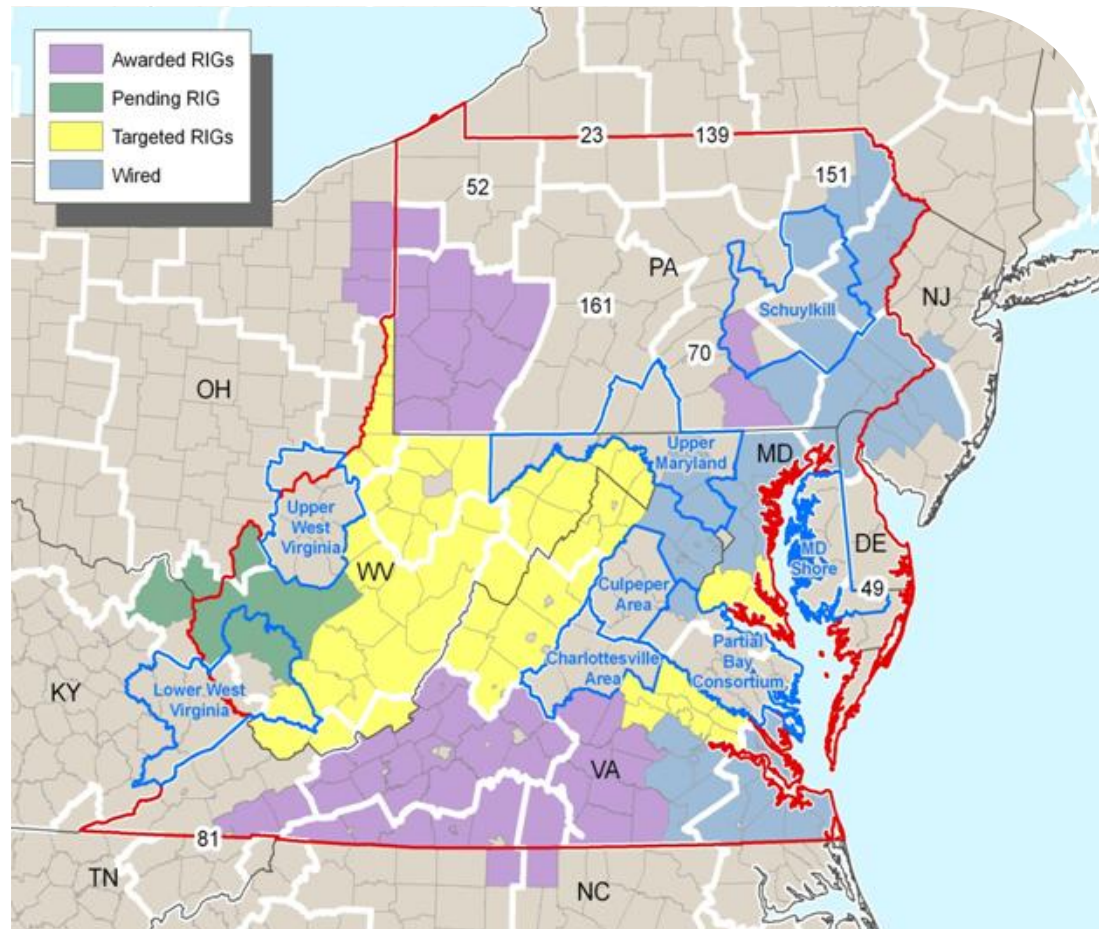




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About This Report

Chmura Economics & Analytics recognizes that accurate, timely data can be difficult to find. This regional report provides employment, wages, occupations, and skills data that can be used as background for an RIG application.

Frequently Asked Questions

What data sources were utilized in the creation of this report?

The data for this report come from a variety of sources. All data are checked, cleaned, combined, organized, and displayed in a way to maximize its usefulness. Yearly employment data in the below charts are based on four-quarter averages. Data for regions outside of Virginia and Ohio are imputed when not disclosed. A few of the sources of data which have been used in the creation of this report are:

- Quarterly Census of Employment and Wages (QCEW)
- Local Area Unemployment Statistics (LAUS)
- Occupation and Industry Forecasts
- Local Employment Dynamics (LED)
- O*Net
- National Center for Education Statistics
- Occupational Employment Statistics (OES)

Who is Chmura Economics & Analytics?

Chmura Economics & Analytics (Chmura) is a provider of applied economic consulting, quantitative research, and software solutions requiring the integration of advanced economic analysis. Chmura publishes *Virginia Economic Trends*, *Ohio Economic Trends*, electronic publications, and forecasts available via www.chmuraecon.com. Software products include JOBSeq®, WIBeq™, and OnStage.

Chmura has headquarters in Richmond, Virginia and a branch office in Cleveland, Ohio. Chmura Economics & Analytics is committed to achieving 100% customer satisfaction in all project engagements. The Chmura philosophy is that when our customer succeeds, Chmura has been successful. To contact us, send an email to info@chmuraecon.com.



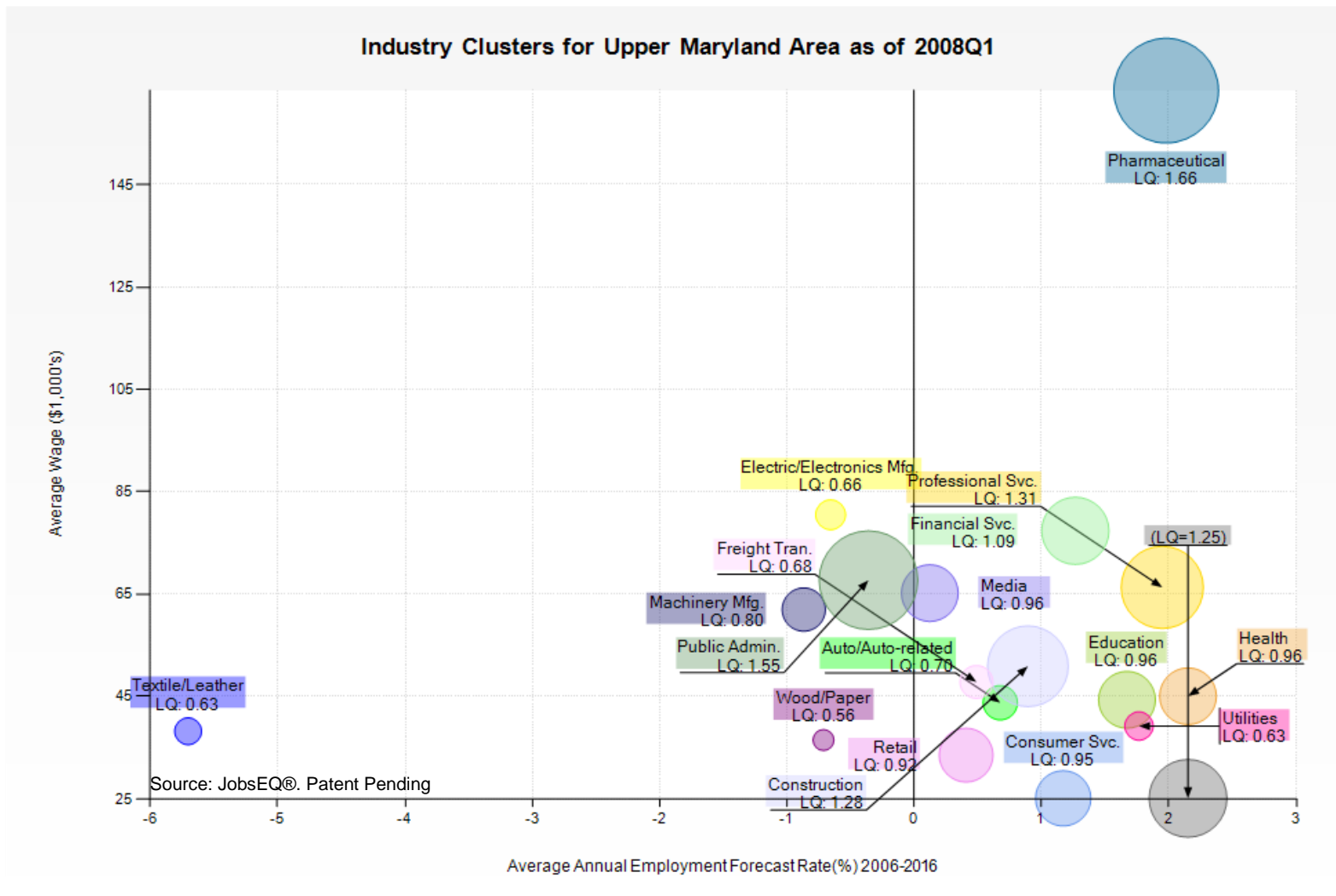
Executive Summary

The Upper Maryland area grew at a modest pace over the period examined in this report and appears to be transitioning in an orderly fashion from declining to expanding industries and occupations. The chemical manufacturing and securities industries each pay an average salary greater than \$130,000 and have been adding jobs. In contrast, accommodation, insurance, and several traditional manufacturing industries have been shedding jobs. The slowdown in residential real estate has also clearly impacted the region.

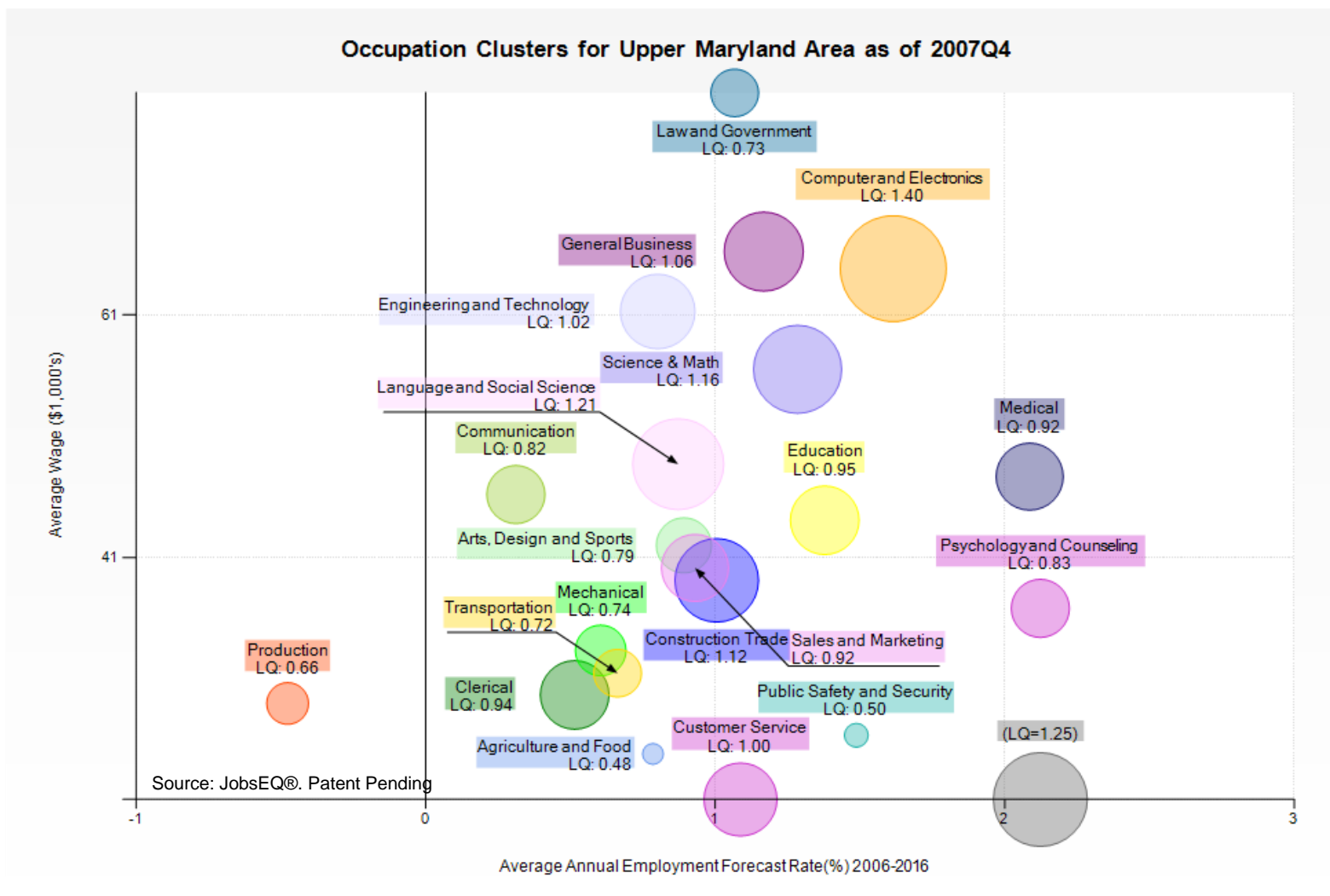
In terms of industry clusters, pharmaceutical firms have a strong presence in the region. The relatively large concentration of professional and financial services in the region is likely due to its proximity to Washington D.C. Occupation clusters in the region are diversified with computer and electronics being notably large.



Industry and Occupation Clusters



Note: See the appendix for an explanation of how to use industry and occupation cluster charts.



Employment by Major Sector

Upper Maryland Area Employment by Major Sector

NAICS	Industry Description	Employment				Employment Change		
		2007	2005	2002	Annual Aver Wages 2007	Number	Annual Average	Annual Aver Change Since 2002
0	Total	782,003	771,528	742,487	\$ 49,231	10,476	0.7%	1.0%
11	Agriculture, Forestry, Fishing and Hunting	2,039	1,983	2,276	\$ 26,078	56	1.4%	-2.2%
21	Mining, Quarrying, and Oil and Gas Extraction	1,133	1,221	1,017	\$ 48,901	(87)	-3.6%	2.2%
22	Utilities	1,819	1,792	2,155	\$ 51,860	26	0.7%	-3.3%
23	Construction	57,899	57,386	53,159	\$ 50,773	514	0.4%	1.7%
31	Manufacturing	49,010	51,810	53,867	\$ 60,290	(2,799)	-2.7%	-1.9%
42	Wholesale Trade	20,455	21,533	21,421	\$ 62,507	(1,078)	-2.5%	-0.9%
44	Retail Trade	93,777	92,520	91,950	\$ 27,256	1,257	0.7%	0.4%
48	Transportation and Warehousing	19,979	18,995	16,350	\$ 43,480	985	2.6%	4.1%
51	Information	18,847	19,913	20,832	\$ 70,451	(1,066)	-2.7%	-2.0%
52	Finance and Insurance	38,186	38,890	37,020	\$ 75,397	(705)	-0.9%	0.6%
53	Real Estate and Rental and Leasing	15,702	16,491	14,394	\$ 58,060	(789)	-2.4%	1.8%
54	Professional, Scientific, and Technical Services	82,890	80,765	76,943	\$ 79,807	2,126	1.3%	1.5%
55	Management of Companies and Enterprises	9,095	4,196	2,480	\$ 99,697	4,899	47.2%	29.7%
56	Administrative and Support and Waste Management and Remediation Services	47,067	47,923	42,023	\$ 32,793	(857)	-0.9%	2.3%
61	Educational Services	61,906	58,921	57,801	\$ 44,046	2,985	2.5%	1.4%
62	Health Care and Social Assistance	93,770	89,373	81,719	\$ 44,636	4,397	2.4%	2.8%
71	Arts, Entertainment, and Recreation	11,968	11,160	12,153	\$ 21,390	807	3.6%	-0.3%
72	Accommodation and Food Services	57,284	57,992	54,065	\$ 17,189	(708)	-0.6%	1.2%
81	Other Services (except Public Administration)	33,355	33,030	32,338	\$ 31,583	325	0.5%	0.6%
92	Public Administration	65,044	64,754	67,131	\$ 66,329	290	0.2%	-0.6%

Employment growth is the broadest and most timely indicator of the general health of an economy.

Information obtained from this table provides insight to questions such as:

- Which industries are posting the largest increases or decreases in employment? What are their average wages—will the trend lead to a decrease or increase in the region's overall wealth?
- Are changes in employment levels cyclical or is a particularly industry in long-term decline? What is driving that trend?

Top 20 Employers by 3-Digit NAICS

Upper Maryland Area Top 20 Employers by 3-Digit NAICS

NAICS	Industry Description	Employment				Employment Change Since 2005		Annual Average Change Since 2002
		2007	2005	2002	Annual Average Wages 2007	Number	Annual Average	
541	Professional, Scientific, and Technical Services	82,890	80,765	76,943	\$ 79,807	2,126	1.3%	1.5%
611	Educational Services	61,906	58,921	57,801	\$ 44,046	2,985	2.5%	1.4%
722	Food Services and Drinking Places	50,923	48,678	45,154	\$ 15,523	2,246	2.3%	2.4%
561	Administrative and Support Services	45,208	46,341	40,566	\$ 32,589	(1,133)	-1.2%	2.2%
238	Specialty Trade Contractors	36,165	35,258	32,667	\$ 44,302	907	1.3%	2.1%
621	Ambulatory Health Care Services	34,179	32,752	29,637	\$ 56,987	1,427	2.2%	2.9%
923	Administration of Human Resource Programs	25,586	25,901	26,041	\$ 77,048	(315)	-0.6%	-0.4%
623	Nursing and Residential Care Facilities	23,881	22,195	20,604	\$ 29,893	1,686	3.7%	3.0%
622	Hospitals	23,038	22,187	19,808	\$ 48,569	852	1.9%	3.1%
921	Executive, Legislative, and Other General Government Support	22,347	22,683	22,421	\$ 54,324	(337)	-0.7%	-0.1%
522	Credit Intermediation and Related Activities	21,540	21,797	20,229	\$ 61,225	(257)	-0.6%	1.3%
445	Food and Beverage Stores	19,572	17,693	20,200	\$ 24,477	1,880	5.2%	-0.6%
236	Construction of Buildings	17,299	17,484	15,660	\$ 58,158	(186)	-0.5%	2.0%
452	General Merchandise Stores	16,228	16,539	15,683	\$ 19,589	(310)	-0.9%	0.7%
624	Social Assistance	12,676	12,256	11,682	\$ 32,401	420	1.7%	1.6%
531	Real Estate	12,403	12,882	11,036	\$ 63,473	(479)	-1.9%	2.4%
423	Merchant Wholesalers, Durable Goods	12,347	13,670	13,304	\$ 67,775	(1,323)	-5.0%	-1.5%
441	Motor Vehicle and Parts Dealers	12,290	12,844	12,044	\$ 45,664	(554)	-2.2%	0.4%
524	Insurance Carriers and Related Activities	11,520	12,140	12,238	\$ 76,007	(621)	-2.6%	-1.2%
813	Religious, Grantmaking, Civic, Professional, and Similar Organizations	10,165	10,238	10,851	\$ 41,261	(73)	-0.4%	-1.3%

The **North American Industry Classification System** (NAICS) was developed cooperatively between the United States, Canada, and Mexico to provide data users with accurate information pertaining to the economy in the 21st century. The NAICS Code is composed of six digits. The first two digits define the top-level category. The three-digit industries shown above represent components of the major sectors.

Similar to the previous table, information obtained from this table provides insight to questions such as:

- Which industries are posting the largest increases or decreases in employment? What are their average wages—will the trend lead to a decrease or increase in the region's overall wealth?
- Are changes in employment levels cyclical or is a particularly industry in long-term decline? What is driving that trend?

Industries with Largest Employment Gains and Losses

Upper Maryland Area Top 20 Industries with Largest Employment Gain by 3-Digit NAICS

NAICS	Industry Description	Employment			Annual Aver Wages 2007	Employment Change		Annual Aver Change Since 2002
		2007	2005	2002		Number	Percent	
551	Management of Companies and Enterprises	9,095	4,196	2,480	\$ 99,697	4,899.38	47.2%	29.7%
722	Food Services and Drinking Places	50,923	48,678	45,154	\$ 15,523	2,245.55	2.3%	2.4%
445	Food and Beverage Stores	19,572	17,693	20,200	\$ 24,477	1,879.66	5.2%	-0.6%
623	Nursing and Residential Care Facilities	23,881	22,195	20,604	\$ 29,893	1,686.00	3.7%	3.0%
621	Ambulatory Health Care Services	34,179	32,752	29,637	\$ 56,987	1,426.55	2.2%	2.9%
925	Administration of Housing Programs, Urban Planning, and Community Develop	2,009	857	1,930	\$ 42,183	1,151.23	53.1%	0.8%
325	Chemical Manufacturing	3,537	2,430	2,056	\$ 135,030	1,106.80	20.6%	11.5%
713	Amusement, Gambling, and Recreation Industries	9,815	9,013	10,285	\$ 19,371	802.21	4.4%	-0.9%
493	Warehousing and Storage	4,062	3,389	1,475	\$ 38,431	672.73	9.5%	22.4%
812	Personal and Laundry Services	9,985	9,371	8,577	\$ 22,463	613.58	3.2%	3.1%
448	Clothing and Clothing Accessories Stores	9,341	8,857	7,527	\$ 16,842	484.67	2.7%	4.4%
624	Social Assistance	12,676	12,256	11,682	\$ 32,401	420.06	1.7%	1.6%
492	Couriers and Messengers	2,563	2,174	1,945	\$ 38,802	389.47	8.6%	5.7%
523	Securities, Commodity Contracts, and Other Financial Investments and Related	4,836	4,454	4,121	\$ 138,894	382.84	4.2%	3.3%
425	Wholesale Electronic Markets and Agents and Brokers	1,843	1,475	1,488	\$ 78,921	368.30	11.8%	4.4%
446	Health and Personal Care Stores	4,740	4,439	5,521	\$ 28,992	300.50	3.3%	-3.0%
562	Waste Management and Remediation Services	1,859	1,582	1,457	\$ 37,621	276.65	8.4%	5.0%
515	Broadcasting (except Internet)	2,703	2,442	2,517	\$ 102,117	260.70	5.2%	1.4%
332	Fabricated Metal Product Manufacturing	3,865	3,690	3,652	\$ 49,341	174.56	2.3%	1.1%
926	Administration of Economic Programs	7,222	7,091	6,807	\$ 78,495	131.21	0.9%	1.2%

Information obtained from the table above identifies the industries that are adding the largest number of jobs which translates into those creating the greatest demand for new workers.

Upper Maryland Area Top 20 Industries with Largest Employment Loss by 3-Digit NAICS

NAICS	Industry Description	Employment			Employment Change			Annual Aver Change Since 2002
		2007	2005	2002	Annual Aver Wages 2007	Number	Annual Average	
721	Accommodation	6,361	9,314	8,911	\$ 30,629	(2,953)	-17.4%	-6.5%
423	Merchant Wholesalers, Durable Goods	12,347	13,670	13,304	\$ 67,775	(1,323)	-5.0%	-1.5%
524	Insurance Carriers and Related Activities	11,520	12,140	12,238	\$ 76,007	(621)	-2.6%	-1.2%
441	Motor Vehicle and Parts Dealers	12,290	12,844	12,044	\$ 45,664	(554)	-2.2%	0.4%
321	Wood Product Manufacturing	2,409	2,961	2,452	\$ 35,210	(552)	-9.8%	-0.3%
453	Miscellaneous Store Retailers	5,503	6,018	6,373	\$ 22,287	(515)	-4.4%	-2.9%
327	Nonmetallic Mineral Product Manufacturing	2,798	3,252	2,874	\$ 43,251	(454)	-7.2%	-0.5%
323	Printing and Related Support Activities	4,174	4,611	4,959	\$ 49,049	(437)	-4.9%	-3.4%
313	Textile Mills	483	897	596	\$ 51,594	(414)	-26.6%	-4.1%
312	Beverage and Tobacco Product Manufacturing	636	1,029	996	\$ 50,682	(393)	-21.4%	-8.6%
331	Primary Metal Manufacturing	381	756	676	\$ 48,234	(375)	-29.0%	-10.8%
322	Paper Manufacturing	667	1,040	1,910	\$ 47,599	(373)	-19.9%	-19.0%
921	Executive, Legislative, and Other General Government Support	22,347	22,683	22,421	\$ 54,324	(337)	-0.7%	-0.1%
923	Administration of Human Resource Programs	25,586	25,901	26,041	\$ 77,048	(315)	-0.6%	-0.4%
452	General Merchandise Stores	16,228	16,539	15,683	\$ 19,589	(310)	-0.9%	0.7%
532	Rental and Leasing Services	3,225	3,506	3,254	\$ 37,225	(280)	-4.1%	-0.2%
922	Justice, Public Order, and Safety Activities	3,643	3,916	4,348	\$ 41,895	(273)	-3.5%	-3.5%
811	Repair and Maintenance	7,133	7,401	7,014	\$ 40,968	(268)	-1.8%	0.3%
522	Credit Intermediation and Related Activities	21,540	21,797	20,229	\$ 61,225	(257)	-0.6%	1.3%
237	Heavy and Civil Engineering Construction	4,435	4,643	4,830	\$ 74,387	(208)	-2.3%	-1.7%

Information obtained from the table above identifies the industries that are shedding the largest number of workers which translates into the number of people who are likely looking for jobs in the region or in need of retraining.

Declining Occupations

Bureau of Economic Analysis Region Upper Maryland Top 20 Declining Occupations Based on Top 20 Declining Industries

Occupation Description	SOC	Employment			Annual Aver Wages 2007	Employment Change		Annual Aver Change Since 2002
		2007	2005	2002		Number	Annual Average	
Maids and Housekeeping Cleaners	37-2012	1,726	2,589	2,495	\$ 17,569	(864)	-18.4%	-7.1%
Hotel, Motel, and Resort Desk Clerks	43-4081	859	1,285	1,236	\$ 18,757	(426)	-18.2%	-7.0%
Retail Salespersons	41-2031	9,675	9,986	9,631	\$ 25,441	(311)	-1.6%	0.1%
Cashiers	41-2011	4,711	5,014	4,863	\$ 17,524	(303)	-3.1%	-0.6%
Truck Drivers, Heavy and Tractor-Trailer	53-3032	1,482	1,755	1,638	\$ 32,903	(273)	-8.1%	-2.0%
Laborers and Freight, Stock, and Material Movers, Hand	53-7062	2,251	2,521	2,367	\$ 20,656	(269)	-5.5%	-1.0%
Customer Service Representatives	43-4051	4,879	5,137	4,922	\$ 29,739	(258)	-2.5%	-0.2%
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific	41-4012	1,825	2,051	2,005	\$ 53,015	(227)	-5.7%	-1.9%
Maintenance and Repair Workers, General	49-9042	902	1,110	1,116	\$ 30,372	(209)	-9.9%	-4.2%
Waiters and Waitresses	35-3031	435	640	620	\$ 16,995	(205)	-17.6%	-6.8%
Office Clerks, General	43-9061	2,792	2,989	2,828	\$ 23,904	(197)	-3.3%	-0.3%
Stock Clerks and Order Fillers	43-5081	3,642	3,799	3,620	\$ 20,439	(157)	-2.1%	0.1%
Team Assemblers	51-2092	781	938	893	\$ 25,439	(156)	-8.7%	-2.6%
Industrial Truck and Tractor Operators	53-7051	593	743	726	\$ 28,140	(150)	-10.7%	-4.0%
Truck Drivers, Light or Delivery Services	53-3033	1,300	1,449	1,388	\$ 22,890	(149)	-5.3%	-1.3%
General and Operations Managers	11-1021	2,282	2,428	2,319	\$ 100,473	(146)	-3.0%	-0.3%
First-Line Supervisors/Managers of Retail Sales Workers	41-1011	2,340	2,482	2,414	\$ 41,751	(142)	-2.9%	-0.6%
Bookkeeping, Accounting, and Auditing Clerks	43-3031	1,730	1,859	1,778	\$ 29,402	(129)	-3.5%	-0.5%
Automotive Service Technicians and Mechanics	49-3023	3,639	3,756	3,533	\$ 35,596	(117)	-1.6%	0.6%
Janitors and Cleaners, Except Maids and Housekeeping Cleaners	37-2011	599	714	678	\$ 20,471	(115)	-8.4%	-2.5%

The **Standard Occupational Classification (SOC)** system is used by all Federal statistical agencies to classify workers into occupational categories for the purpose of collecting, calculating, or disseminating data. All workers are classified into one of over 820 occupations according to their occupational definition. Each occupation group includes detailed occupation(s) requiring similar job duties, skills, education, or experience. This system is provided by the U.S. Department of Labor, Bureau of Labor Statistics.

The table above identifies the most prevalent occupations in the regional industries shedding the most workers over the past year. The occupations on this list identify those that are in need of retraining or transferring to other industries.

Upper Maryland Area Top 20 Declining Occupations Based on All Industries

Occupation Description	SOC	Employment			Annual Aver Wages	Employment		Annual Aver Change Since 2002 Q4
		2007 Q4	2006 Q4	2002 Q4		2007 Q4	Number	
Customer Service Representatives	43-4051	11,379	11,744	11,228	\$ 29,834	(365)	-3.1%	0.3%
Carpenters	47-2031	7,353	7,681	6,769	\$ 39,337	(327)	-4.3%	1.7%
Veterinary Assistants and Laboratory Animal Caretakers	31-9096	626	940	916	\$ 20,072	(314)	-33.4%	-7.3%
Veterinary Technologists and Technicians	29-2056	507	770	750	\$ 26,404	(264)	-34.3%	-7.5%
Truck Drivers, Heavy and Tractor-Trailer	53-3032	6,616	6,844	6,492	\$ 34,990	(228)	-3.3%	0.4%
Construction Laborers	47-2061	7,998	8,196	7,168	\$ 30,151	(198)	-2.4%	2.2%
Photographers	27-4021	457	645	655	\$ 31,529	(188)	-29.2%	-7.0%
Veterinarians	29-1131	361	541	526	\$ 77,942	(180)	-33.3%	-7.3%
Computer Support Specialists	15-1041	3,664	3,830	3,658	\$ 44,655	(167)	-4.4%	0.0%
Laborers and Freight, Stock, and Material Movers, Hand	53-7062	9,818	9,975	8,894	\$ 22,611	(157)	-1.6%	2.0%
Team Assemblers	51-2092	3,914	4,065	4,061	\$ 25,931	(151)	-3.7%	-0.7%
Interviewers, Except Eligibility and Loan	43-4111	1,285	1,431	1,300	\$ 24,478	(146)	-10.2%	-0.2%
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scien	41-4012	5,407	5,549	5,369	\$ 54,847	(142)	-2.6%	0.1%
Security Guards	33-9032	5,330	5,450	5,301	\$ 22,534	(120)	-2.2%	0.1%
Computer Programmers	15-1021	3,267	3,385	3,262	\$ 68,383	(118)	-3.5%	0.0%
Loan Officers	13-2072	2,894	3,002	2,671	\$ 60,052	(108)	-3.6%	1.6%
Painters, Construction and Maintenance	47-2141	1,719	1,825	1,560	\$ 33,705	(106)	-5.8%	2.0%
Receptionists and Information Clerks	43-4171	8,367	8,468	7,581	\$ 23,025	(101)	-1.2%	2.0%
Sewing Machine Operators	51-6031	997	1,088	1,157	\$ 20,999	(91)	-8.4%	-2.9%
Lawyers	23-1011	2,122	2,210	1,898	\$ 115,580	(88)	-4.0%	2.3%

The table above identifies the most prevalent occupations that are declining from ALL industries in the region. The occupations on this list identify those that are in need of retraining or transferring to other industries.

Growing Occupations

Upper Maryland Area Top 20 Growing Occupations Based on All Industries

Occupation Description	SOC	Employment			Annual Average Wages 2007 Q4	Employment Change		Annual Average Change Since 2002 Q4
		2007 Q4	2006 Q4	2002 Q4		Number	Percent	
Cashiers	41-2011	22,761	22,359	22,805	\$ 17,852	402	1.8%	0.0%
Combined Food Preparation and Serving Workers, Including Fast Food	35-3021	12,683	12,288	11,826	\$ 15,688	395	3.2%	1.4%
Stock Clerks and Order Fillers	43-5081	9,301	9,111	8,978	\$ 21,534	190	2.1%	0.7%
Waiters and Waitresses	35-3031	12,863	12,690	11,275	\$ 16,290	173	1.4%	2.7%
Registered Nurses	29-1111	12,419	12,258	10,903	\$ 55,117	162	1.3%	2.6%
Tellers	43-3071	3,580	3,449	3,412	\$ 21,723	132	3.8%	1.0%
Medical Scientists, Except Epidemiologists	19-1042	1,018	895	753	\$ 71,796	123	13.7%	6.2%
Accountants and Auditors	13-2011	6,651	6,536	6,175	\$ 59,385	115	1.8%	1.5%
Secretaries, Except Legal, Medical, and Executive	43-6014	10,175	10,071	9,221	\$ 27,443	104	1.0%	2.0%
Biological Technicians	19-4021	883	784	663	\$ 38,200	98	12.6%	5.9%
Janitors and Cleaners, Except Maids and Housekeeping Cleaners	37-2011	13,991	13,894	12,673	\$ 19,984	97	0.7%	2.0%
Cooks, Fast Food	35-2011	2,471	2,377	2,229	\$ 15,456	94	4.0%	2.1%
Engineering Technicians, Except Drafters, All Other	17-3029	946	852	765	\$ 50,829	94	11.0%	4.4%
Maids and Housekeeping Cleaners	37-2012	7,436	7,353	7,770	\$ 18,115	82	1.1%	-0.9%
Executive Secretaries and Administrative Assistants	43-6011	7,212	7,136	6,445	\$ 38,085	76	1.1%	2.3%
First-Line Supervisors/Managers of Food Preparation and Serving Workers	35-1012	4,151	4,076	3,877	\$ 28,179	75	1.8%	1.4%
Teacher Assistants	25-9041	6,047	5,972	5,795	\$ 20,961	75	1.2%	0.9%
Packaging and Filling Machine Operators and Tenders	51-9111	1,585	1,511	1,387	\$ 24,676	74	4.9%	2.7%
Personal and Home Care Aides	39-9021	2,562	2,488	2,279	\$ 17,196	74	3.0%	2.4%
Food Preparation Workers	35-2021	5,048	4,974	4,725	\$ 17,868	74	1.5%	1.3%

The table above identifies the most prevalent occupations that are in demand for the industries in the region that are showing the largest employment growth.

Forecast Occupation Gaps

Upper Maryland Area Gaps in Top 20 Occupations (Requiring 2-Year Degree or Greater) Over Next 7 Years

Occupation Description	SOC	Annual Occupation Gaps	Employment			Annual Aver Wages 2007 Q4
			2007 Q4	2006 Q4	2002 Q4	
Executive Secretaries and Administrative Assistants	43-6011	91	7,212	7,136	6,445	\$ 38,085
Bookkeeping, Accounting, and Auditing Clerks	43-3031	88	8,233	8,309	7,634	\$ 30,657
Registered Nurses	29-1111	81	12,419	12,258	10,903	\$ 55,117
Medical Assistants	31-9092	78	2,698	2,646	2,286	\$ 25,768
Sales Representatives, Services, All Other	41-3099	50	2,869	2,882	2,615	\$ 51,532
Teacher Assistants	25-9041	49	6,047	5,972	5,795	\$ 20,961
Licensed Practical and Licensed Vocational Nurses	29-2061	47	3,457	3,443	3,198	\$ 36,365
Hairdressers, Hairstylists, and Cosmetologists	39-5012	38	3,349	3,298	2,677	\$ 23,318
Bill and Account Collectors	43-3011	28	2,759	2,833	2,591	\$ 29,237
Automotive Service Technicians and Mechanics	49-3023	27	4,284	4,337	4,191	\$ 35,468
First-Line Supervisors/Managers of Construction Trades and Extraction Workers	47-1011	26	4,234	4,321	3,877	\$ 56,114
Preschool Teachers, Except Special Education	25-2011	24	2,600	2,600	2,523	\$ 24,247
Cost Estimators	13-1051	23	1,537	1,557	1,422	\$ 56,034
Fitness Trainers and Aerobics Instructors	39-9031	22	2,047	2,062	2,145	\$ 33,603
Social and Human Service Assistants	21-1093	20	1,356	1,308	1,290	\$ 25,219
Network Systems and Data Communications Analysts	15-1081	20	1,927	2,014	1,906	\$ 66,853
First-Line Supervisors/Managers of Housekeeping and Janitorial Workers	37-1011	17	1,293	1,281	1,239	\$ 31,935
Plumbers, Pipefitters, and Steamfitters	47-2152	15	2,903	2,886	2,731	\$ 45,798
First-Line Supervisors/Managers of Mechanics, Installers, and Repairers	49-1011	14	2,257	2,275	2,216	\$ 53,132
Manicurists and Pedicurists	39-5092	14	758	751	601	\$ 20,614

The **Gap** forecasts the average annual number of individuals needed in the occupation beyond the supply of new workers. It includes changes due to replacements. For example, consider the case in which a retail salesperson gets a degree, leaves their occupation, and becomes a financial analyst. This turnover dictates that a new retail salesperson is needed. Even though the total number of retail salespersons in the region is unchanged, the gap counts this situation as an increase of one in demand for retail salesperson. It also includes expected changes due to worker preferences and wages.

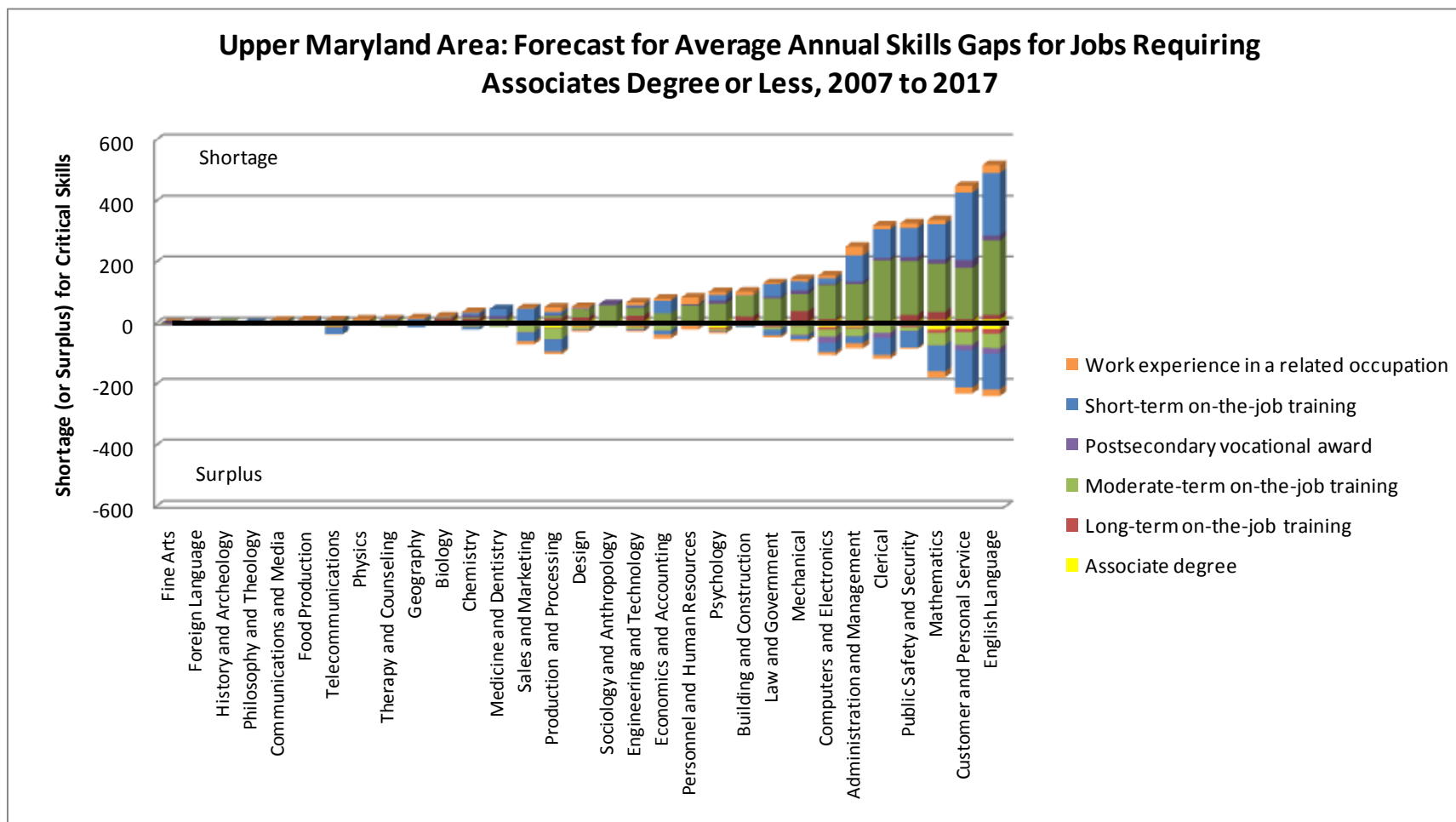
This table provides insight into the occupations that typically require a 2-year degree or greater that are expected to be in greatest demand.

Upper Maryland Area Gaps in Top 20 Occupations (Requiring Less than 2-Year Degree) Over Next 7 Years

SOC	Occupation Description	Annual Occupation Gaps	Employment			Annual Aver Wages 2007 Q4
			2007 Q4	2006 Q4	2002 Q4	
37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	295	13,991	13,894	12,673	\$ 19,984
43-9061	Office Clerks, General	204	18,444	18,521	16,828	\$ 24,345
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	160	12,683	12,288	11,826	\$ 15,688
31-1011	Home Health Aides	152	3,704	3,648	2,975	\$ 19,208
41-2031	Retail Salespersons	147	26,366	26,309	24,633	\$ 23,576
37-2012	Maids and Housekeeping Cleaners	139	7,436	7,353	7,770	\$ 18,115
39-9021	Personal and Home Care Aides	130	2,562	2,488	2,279	\$ 17,196
43-4171	Receptionists and Information Clerks	120	8,367	8,468	7,581	\$ 23,025
43-4051	Customer Service Representatives	119	11,379	11,744	11,228	\$ 29,834
31-1012	Nursing Aides, Orderlies, and Attendants	109	8,636	8,567	7,728	\$ 21,781
33-9032	Security Guards	107	5,330	5,450	5,301	\$ 22,534
37-3011	Landscaping and Groundskeeping Workers	101	6,684	6,637	6,011	\$ 22,072
53-3032	Truck Drivers, Heavy and Tractor-Trailer	65	6,616	6,844	6,492	\$ 34,990
53-3033	Truck Drivers, Light or Delivery Services	45	5,208	5,292	4,996	\$ 26,511
43-6013	Medical Secretaries	42	2,845	2,825	2,479	\$ 28,499
47-2061	Construction Laborers	40	7,998	8,196	7,168	\$ 30,151
41-2021	Counter and Rental Clerks	39	2,869	2,922	2,829	\$ 25,417
31-9091	Dental Assistants	30	1,775	1,754	1,579	\$ 29,484
39-3091	Amusement and Recreation Attendants	22	1,047	1,057	1,089	\$ 17,229
35-2021	Food Preparation Workers	21	5,048	4,974	4,725	\$ 17,868

This table provides insight into the occupations that typically require less than a 2-year degree that are expected to be in greatest demand.

Forecast Skill Needs



The chart above identifies the skills needed for the gap occupations identified on the previous page that typically require less than a 2-year degree.

Appendix: Clusters

Cluster charts display a geographic concentration of interrelated industries or occupations.

- **Cluster**
 - Industry clusters can form and grow because of a region's competitive advantage—resources such as location, trained labor, and education systems.
 - Occupation clusters describe the specialization of a region's workforce.
- **Location Quotient - (LQ)** This value is shown by the size of the circle; the larger the circle, the larger the location quotient.
 - A location quotient greater than 1.0 indicates that the region has a higher concentration of employment in a particular industry or occupation than the nation; a location quotient less than 1 indicates the region has a lower concentration of employment in the cluster than the nation.
 - If a regional industry group has a location quotient of 1.25 or higher, it is considered to possess a *Competitive Advantage* in that industry.
 - Only industries or occupations with an LQ higher than .5 are shown in the clusters chart.
 - Nondisclosure - if cluster data are nondisclosable, a range will be given for the LQ.
- **Average Wages** - This value is shown on the vertical axis. The higher the circle is shown on the chart, the higher the average wages in that cluster.
- **Forecast Growth** - The forecast growth rate for a cluster is the annual average percentage change in employment expected over the given period. This value is shown along the horizontal axis. The further to the right a cluster's circle is shown, the greater the growth expected in that cluster. The expected growth is based upon a long-range national industry and occupation forecast and may not reflect short-term and regional fluctuations.